

14. (original)A method according to claim 13 wherein the signal is encoded and decoded using decoding methods selected from the group consisting of (i) QAM, (ii) CAP, and (iii) DMT.

**REMARKS**

Claims 1-14 are pending in the application. Claims 1-5 and 7, and 9 -14 stand rejected by the Examiner. The Examiner objects to claims 6 and 8 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claim. The claims are amended with this response. No new matter has been added by the amendments. Reconsideration of the application, as amended, is respectfully requested.

Claims 6 is rewritten in independent form as suggested by the examiner. The claim is further amended to limit the number of twisted pair conductors to at least one and at most seven twisted pairs of conductors inside the insulation sheath.

Claims 8 is rewritten in independent form as suggested by the examiner. The claim is further amended to limit the number of twisted pair conductors to at least one and at most six twisted pairs of conductors around a center conductor inside the insulation sheath.

Independent method claim 12 stands rejected on the same grounds as claim 1. Method claim 12 is amended to align the structural limitations with amended claim 6 as discussed above.

All other currently amended claims are amended for the sole purpose of changing the dependency from the canceled base claim to the rewritten claims.

Applicant respectfully submits that the amendment does not raise an issue not already considered. Moreover, Applicant submits that the amendment does not require further searching.

There have been three non-final actions prior to the final action to which this response relates. Applicant has argued extensively for the allowance of a well logging cable having **one or more** twisted pairs of conductors in an insulation sheath and an insulation sheath surrounding the twisted pairs of conductors and a tensile load carrier surrounding the insulation sheath.

The Examiner's search for art relating to rejected claim 1 must have covered a well logging cable having one or more twisted pairs of conductors in the claimed configuration, and the search for allowable claim 6 must have included a search for a well logging cable having seven twisted pairs of conductors in the claimed configuration. **Consequently, the Examiner's search has already encompassed a cable having one to seven or more twisted pairs of conductors.**

The Examiner's searches in conjunction with Applicants disclosures have revealed U.S. patent 3,259,675 to Bowers teaching a self-supporting wireline cable having seven conductors. These conductors are not twisted pair and thus to not provide the bandwidth of the claimed cable. The Examiner searches in regard to the same claim scope have further revealed U.S. Patent 6,206,133 B1 to Paulsson teaching a down hole clamped receiver array having a signal cable 30 having up to 256 twisted pairs of conductors. The Paulsson signal is not self supporting, i.e. no tensile load carrier surrounding the signal conductors.

In view of these searches and Applicant's prior arguments, the Examiner has concluded that a well logging cable having seven twisted pairs of conductors inside an insulation sheath surrounded by a tensile load carrier as claimed in claim 6 is allowable over the art of record. Applicant respectfully submits that an amendment to claim at most seven twisted pairs of conductors inside an insulation sheath surrounded by a tensile load carrier as claimed in amended claim 6 above is likewise allowable over the art of record. Furthermore, the amendment does not raise a new issue and does not necessitate further search, because the previous searches must have included one to seven or more twisted pairs of conductors in the claimed configuration.

The Examiner has further concluded that claim 8 is allowable over the art of record. Claim 8 claims at least 6 twisted pairs of conductors disposed around a center conductor, all conductors being within the insulation sheath and a tensile load carrier surrounding the insulation sheath. Applicant respectfully submits that an amendment to claim at least one and at most six twisted pairs of conductors disposed around a center conductor, the twisted pairs of conductors inside an insulation sheath surrounded by a tensile load carrier as claimed in amended claim 8 above is likewise allowable over the art of record. Furthermore, the amendment does not raise a new issue and does not necessitate further search, because the previous searches must have included one to six twisted pairs of conductors in the claimed configuration.

Applicant further submits that the amendment to method claim 12 merely aligns the method claim to amended claim 6. As such, amended claim 12 is now allowable for the

same reasons as presented for amended claim 6. Applicant further submits that the amendment does not raise any new issue and does not necessitate a new search for the same reasons as stated for amended claim 6.

Applicant submits that the amendment places the application in a condition for allowance, does not raise any new issue and does not necessitate a further search.

## CONCLUSION

For all of the foregoing reasons, applicant submits that the application is now in a condition for allowance. The Commissioner is hereby authorized to charge any fee due for this response and to credit any overpayment to Deposit Account No. 02-0429 (584-23196-US).

Respectfully submitted,

Date: February 27, 2004

  
\_\_\_\_\_  
Todd A. Bynum, Reg. No. 39,488  
Madan, Mossman & Sriram, P.C.  
2603 Augusta, Suite 700  
Houston, Texas 77057-5638  
Tel: (713) 266-1130  
Fax: (713) 266-8510  
Attorney For Applicants